

State the amplitude and period for each function.

1. $y = 3\sin 2x$

2. $y = \frac{5}{2}\cos\left(\frac{x}{2}\right)$

3. $y = \frac{1}{2}\sin\left(\frac{\pi x}{3}\right)$

Describe the transformation for each function.

7. $y = \sin(x - \pi)$

8. $y = \cos x + 1$

9. $y = \sin\left(x + \frac{\pi}{2}\right) - 3$

Write the equation of the function with the given information.

12. Sine function

V.S.: 3

P.S.: π

13. Cosine function

V.S.: -2

P.S.: -4π

14. Sine function

V.S.: 2

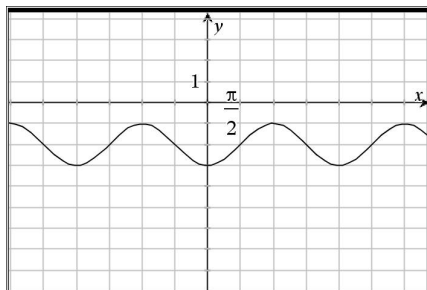
P.S.: $-\pi$

15. Cosine function

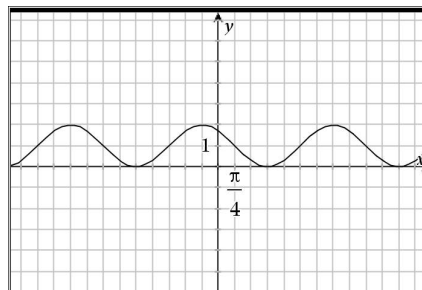
V.S.: 3

P.S.: $\frac{\pi}{2}$

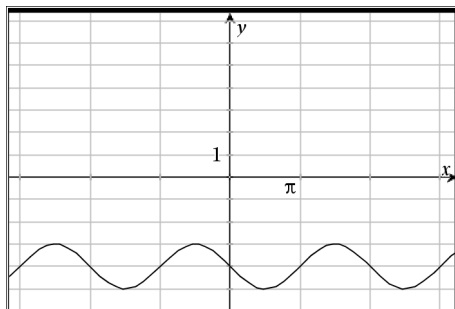
16. The parent function is sine.



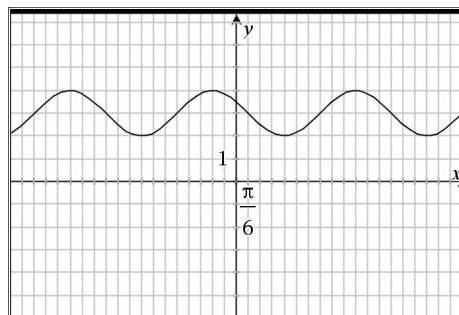
17. The parent function is cosine.



18. The parent function is sine.



19. The parent function is cosine.



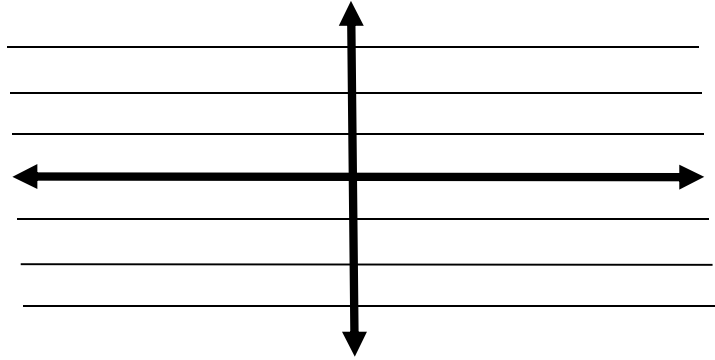
Graph the following. Label the axes. Provide the period, phase shift, and vertical shift in the space provided. If any of these do not exist, write *none*. Show at least one positive and negative period.

20. $y = \sin x + 2$

Period = _____

P. S. = _____

V.S. = _____

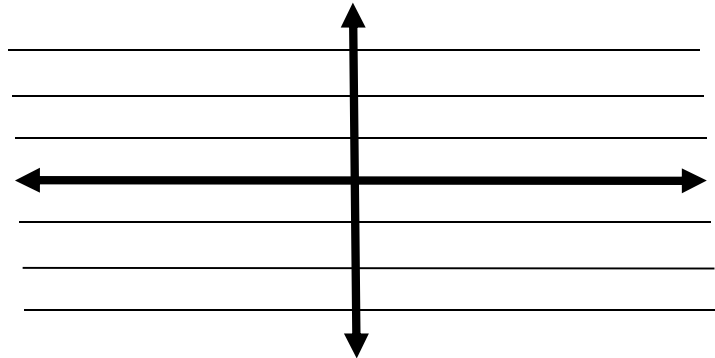


21. $y = \cos(x + \frac{\pi}{3})$

Period = _____

P. S. = _____

V. S. = _____

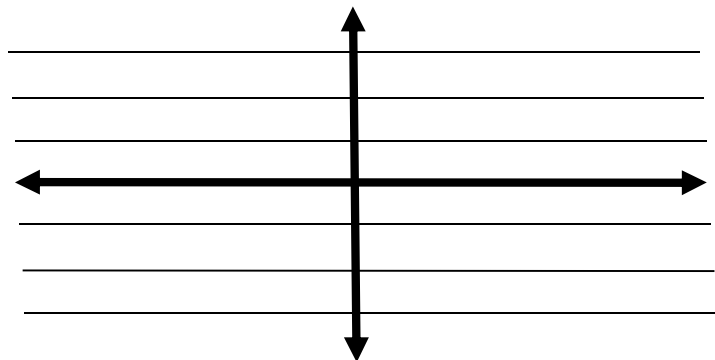


22. $y = \sin(x - \frac{\pi}{4}) - 1$

Period = _____

P. S. = _____

V. S. = _____



23. $y = \cos(x + \pi) + 2$

Period = _____

P. S. = _____

V. S. = _____

